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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/850,213	05/07/2001	Chikao Ikenaga	OPS Case 533	9610

7590 03/13/2003

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EXAMINER

GREENE, PERSHELLE L

ART UNIT PAPER NUMBER

2826

DATE MAILED: 03/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/850,213

Applicant(s)

IKENAGA ET AL.

Examiner

Pershelle Greene

Art Unit

2826

-- The MAILING DATE of this communication appears on the cover sheet with the corresponding address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2001.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) 1,2,5-7,18 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3-4, 8-17, 19, and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Art Unit: 2826

Serial Number: 09/850213

Attorney's Docket #: OPS C-533

Filing Date: 05/07/2002

Applicant: Ikenaga et al.

Examiner: Pershelle Greene

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species III in Paper No. 10 is acknowledged.

Claim Rejections - 35 USC § 103

1. Claims 3, 4, 8-10, 19, and 19 rejected under 35 U.S.C. 103(a) as being unpatentable over Mclellan et al. (U.S. Patent # 6,229,200), in view of Suda (U.S. Patent # 5,767,566).

As to claims 3, 4, and 21, Mclellan shows, in figure 5a, a package comprising a plurality of lead frames arranged in a matrix through grid leads. The grid leads have projecting terminals connected to one another. There are semiconductor devices mounted on the die pads supported with suspending leads of individual lead frames. The devices are encapsulated in a molding compound. Mclellan fails to explicitly show a hollow or recessed portion.

Suda is cited for showing a plastic mold type semiconductor device. Specifically, Suda is cited for showing recesses in the tie bars.

As to claims 8-10, 17, and 19, claims 8-10, 17, and 19 are being rejected for the same reasons stated above in regard to claims 3 and 4. In addition, Mclellan shows, referring to figure 3, terminals disposed outwardly of the die pad in surrounding relation. The devices are electrically connected to the terminals of the lead frame by wires. The mold compound is disposed over the cavity so as to encapsulate the upper sides of the device and the lower sides of the die pad.

It would have been obvious to one of ordinary skill in the art to use the recessed portions of Suda with the device of Mclellan for the purpose of preventing short circuits.

2. Claims 11-16 are being rejected under 35 U.S.C. 103(a) as being unpatentable over Mclellan et al. (U.S. Patent # 6,229,200), in view of Suda (U.S. Patent # 5,767,566), and further in view of Tsuchiya (U.S. patent # 5,633,205).

As to claim 11, claim 11 is being rejected for the same reasons as stated above in regard to claims 3 and 4. In addition, Tsuchiya show, a lead having a recess formed on opposite sides of the root. It would have been obvious to one of ordinary skill in the art to form a recess on opposite sides of the root to prevent short circuits.

As to claims 12-16, Suda discloses that the hollows can have a rounded shape. Mclellan shows the device having terminals disposed outwardly from the die pad in a surrounding relation. The semiconductor devices are electrically connected to the lead frame by wires.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pershelle Greene whose telephone number is 703-305-3870. The examiner can normally be reached on M-F 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nathan Flynn can be reached on 703-308-6601. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-7722 for regular communications and 703-308-7724 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

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PLG
March 9, 2003

NATHAN J. FLYNN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

